

# Work Order ID 122090

Thursday, July 10, 2014 8:04:06 AM

\*122090\*

Page 1

Item ID: D2265 Accept \*N900040100\* , Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Step Bracket  
 Start Date: 7/10/2014 Start Qty: 40.00 \*40\* Cust Item ID:  
 Required Date: 7/10/2014 Req'd Qty: 40.00 \*40\* Customer:  
 Reference:

Approvals: Process Plan: CZ Date: 14/07/09 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2265	Rev A								

100 PURCHASING 0.00  
 \*100\* Purchasing Memo 0.00  
 Purchasing Issue P/O: 24689 Cast parts per drawing D2265 Possible Supplier:  
 Alpine Foundry Material release note required

CZ 14/07/09 40

110 Receive & Inspect for Damage & Mat'l Certs 0.00  
 \*110\* Packaging Memo 0.00  
 Packaging Ensure Material Release Note is attached

14/7/10 (40)

120 QC6- Inspect dimensions to drawing 0.00  
 \*120\* QC Memo 0.00  
 Quality Control

DAS  
 27  
 9-89  
14/7/10

40

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process **									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Thursday, July 10, 2014 8:04:07 AM

**\*122090\***

**\*NS1\***

Stop **\*NS2\***

**\*40\***

**\*40\***

**Reference:**

**\*NR1\***

Stop **\*NR2\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

**\*130\***

SEP 08 2014

Grind tips of castings as per Dwg D2265

**\*140\***

14-9-10

Identify as per dwg & Stock Location: 51301

**\*150\***

14-9-11

## Packaging

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		
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**Work Order ID 122090**

Thursday, July 10, 2014 8:04:07 AM

**\*122090\***

Page 3

Item ID: D2265      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
Revision ID:      Stop **\*NS2\***  
Item Name: Step Bracket  
Start Date: 7/10/2014      Start Qty: 40.00      **\*40\***      Cust Item ID:  
Required Date: 7/10/2014      Req'd Qty: 40.00      **\*40\***      Customer:  
Reference:

Approvals:      Process Plan:      Date:      Tooling:      Date:      Run Start **\*NR1\***  
QC:      Date:      SPC (Y/N):      Date:      Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
<b>*160*</b>									
QC	Memo	0.00							
Quality Control									

14/7/12 *[Signature]*  
ME  
14-9-14

# Picklist Print

Thursday, July 10, 2014 8:04:06 AM

Page 1

Work Order ID: 122090

**\*122090\***

Parent Item: D2265

**\*D2265\***

Parent Item Name: Step Bracket

Start Date: 7/10/2014

Required Date: 7/10/2014

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP D98.12.15Added Dwg RevDM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2265P		Purchased	No			100	Each	0.0000	1	40			
<b>*D2265P*</b>									<b>**</b>				
Step Support Casting													

*7/9/10 (40)*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

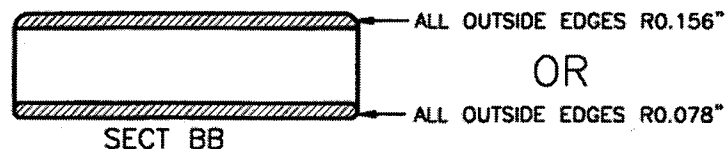
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
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<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		



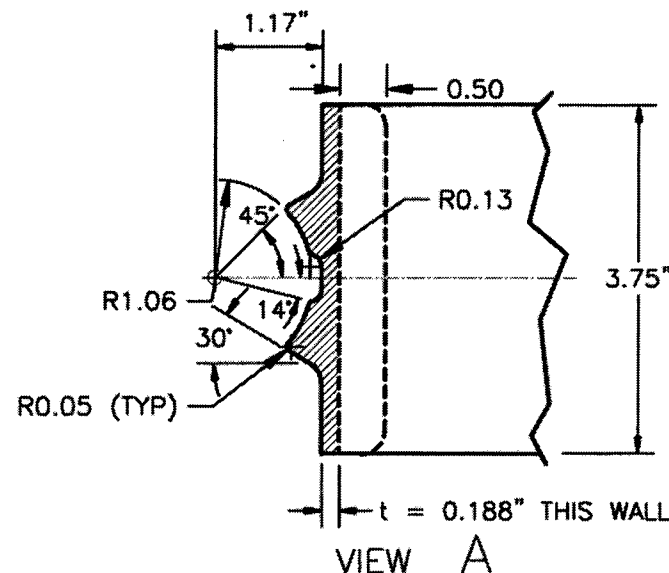
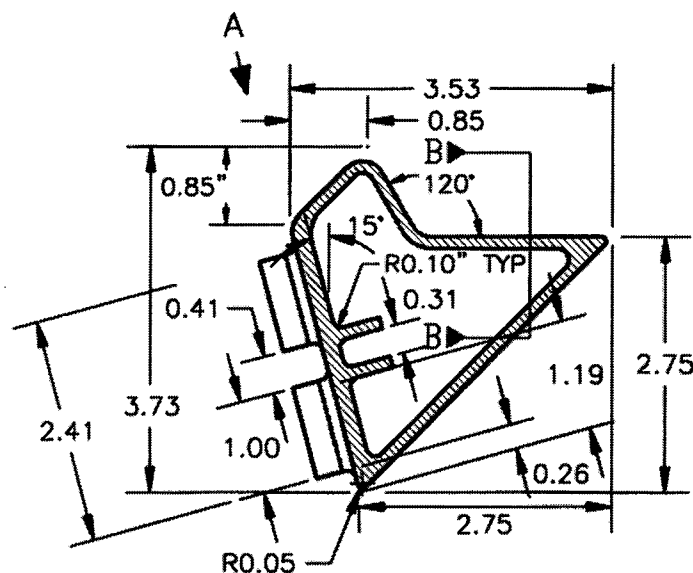
PREPARED	B. Williams	DART AERO ACCESSORIES INC
CHECKED	APPROVED	VICTORIA INTERNATIONAL AIRPORT, CANADA
DATE	D2265	REV. A
Aug. 18, 1994	TITLE	SHEET 1 OF 1
	STEP SUPPORT CASTING	SCALE
		1:2

RELEASED  
9605/27

CL14107/10  
W10: 122090



UNDIMENSIONED OUTER RADII 0.375"  
UNDIMENSIONED INNER RADII 0.25"  
UNDIMENSIONED WALL THICKNESSES 5/32"  
MATERIAL: CAST ALUMINUM  
ALLOY A356.2 (F)







Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO24689**

Purchase Order Date 6/19/2014

PO Print Date 7/10/2014

Page Number 2 of 2

Order From :  
ALPINE NON-FERROUS FOUNDRY  
8657 - 132ND STREET  
SURREY, BC V3W 4P1  
CA

VC-ALP001

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name  
Vendor Phone 604 596 8080  
  
Ship To Contact  
Ship To Phone  
Ship Via: FedEx PI collect  
Ship Acct:

Buyer  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency CAD  
FOB Destination-Collect

Line Total: \$0.00

3	D2265P	Step Support Casting	7/14/2014	40.00	✓	\$15.65	\$626.00
			Yes	Each			
			7/14/2014				

AS PER DWG D2265 REV. A  
B122090

Line Total: \$626.00

PO Total: \$1,550.32

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Change Nbr: 2

Change Date: 7/10/2014

**ALPINE NON-FERROUS FOUNDRY**

8657-132ND STREET  
SURREY, B.C. V3W 4P1

Tel: (604) 596-8080 Fax: (604) 596-8045

**WORK ORDER**

**Sold To:** DART AEROSPACE  
1270 ABERDEEN STREET  
HAWKESBURY, ON K6A 1K7  
CANADA

**Ship To:** DART AEROSPACE

Order Date		Purchase Order#	Due Date	Ship Via			Page
20-Jun-14		PO24689	14-Jul-14	FEDEX			1
Item#	Item Code	Description	Quantity	Unit Price	Ext Price	Qty Shipped	Ship Date
1	DART D2265	D2265 CSTG,SUPPORT BRACKET	40			40	
2							

**Comments**

Castings&Patterns are property of Alpine until paid in full

Trialco Inc.  
900 E. 14th Street  
Chicago Heights, Illinois  
60411-3002

## Certificate of Analysis

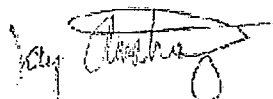
Alloy	535.2	Heat #	HSF197
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Bundle #	Weight
HSF197-019	2,072
HSF197-020	2,036

### Chemical Composition

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Pb	Sn	Sr
0.04	0.10	0.00	0.22	7.22	0.00	0.00	0.01	0.19	0.00	0.00	
Ca	Na	Be	Bi	B	P	Cd	Co	Sb	V	Zr	
0.0003	0.0001	0.0034									

We certify that the above analysis is the result obtained in our laboratory for the heat indicated.  
This shipment is free of radiation.



Jay Armstrong  
President  
Trialco Inc.